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AMERICAN FRUIT GROWER MAGAZINE



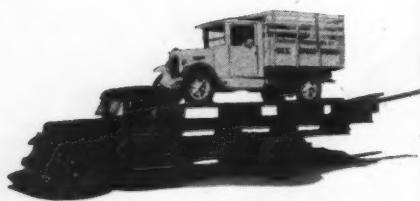
October, 1930
Ten Cents a Copy



THE world around, Internationals are hard at work. This Heavy-Duty truck, loaded with 6000 kilos of bananas for the Rio de Janeiro market, is owned by Alfredo Brandi Filho, of Jacarépaguá, in South America. The old method is by oxcart; note the contrast in the picture.



Internationals are Everywhere



The Six-Speed Special ... rides on a 3-ton International

In this picture a new International 3-ton Speed Truck is shown carrying a 1-ton Six-Speed Special on a demonstration tour. The famous Six-Speed Special has 6 forward speeds. Through its special 2-speed axle it combines high road speed with tremendous pulling power for gumbo, steep hills, and soft fields. It has sturdy members throughout, good looks, and 4-wheel brakes. Exclusive features have made this an extremely popular truck for rural hauling. Capacity loads always come through, so long as the wheels can reach the road bottom, when an International Six-Speed Special is on the job. Ask for a demonstration.

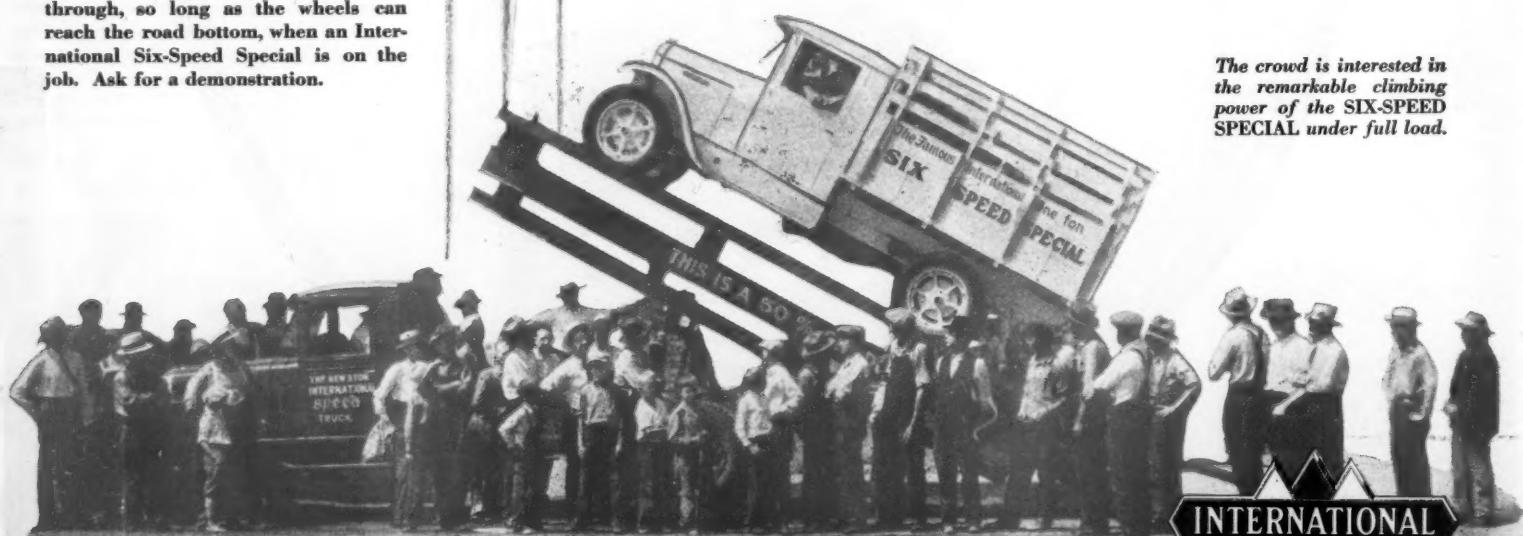
THE world today is alive with motor trucks. For most hauling jobs the gulf between animal hauling and motor hauling is as deep and wide as the gulf between the first McCormick Reaper and the modern McCormick-Deering Harvester-Thresher. It is the gulf between 4 miles per hour and 40 miles per hour—the difference between an hour's job and a day's work—a matter of *speed and labor, time and money*.

Industry has learned the great value of motor hauling, and so has Agriculture, for the fact is that no other single industry, no matter how big, has so many motor trucks in service as are used in farming in the United States.

Tens of thousands of the farm-owned trucks are Internationals. For more than a quarter-century International Harvester has been aiding the farmer to transport his many loads speedily, to cut his hauling costs, to save the time and energies of himself and his men for more profitable work. Today there are sturdy, reliable, farm-owned Internationals everywhere. Everywhere they are being served by the great International organization, and that is another good reason for their popularity.

Visit one of our Company-owned branches or a McCormick-Deering power-farming dealer and get acquainted with the Six-Speed Special, the famous truck which is illustrated here at the left and below. For heavier loads ask about the new International Speed and Heavy-Duty sizes. Catalogs on request.

INTERNATIONAL HARVESTER COMPANY
606 S. Michigan Ave. OF AMERICA
(Incorporated) Chicago, Illinois



The crowd is interested in the remarkable climbing power of the SIX-SPEED SPECIAL under full load.

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American Fruit Grower MAGAZINE

with which is consolidated
AMERICAN PRODUCE GROWER

VOLUME 50

NUMBER 10



"Future Sales" of Potatoes

THE EXPERIMENT of the Chicago Mercantile Exchange in opening operations for trading in potato "futures" will be watched by the fruit and vegetable industries with more than casual interest.

The very contemplation of future trading in any new commodity is a tribute to the progress of standardization in the grading of that commodity, for uniformity of product is a prime necessity to future trading.

For a time at least but two varieties will be traded in on the floor of the Mercantile Exchange, round whites, such as are grown in the States nearest to Chicago, Michigan, Wisconsin, Minnesota; and Idaho Russets, the principal baking potato.

It is planned, should success crown the venture in potatoes, to still further expand the activities of the Mercantile Exchange next season to the extent of adding at least one variety of apples and one or two lines of canned foods.

Much has been claimed for and against the general plan of future trading in foodstuffs, and out of the generality of confusing statements it may be possible to pick a few that give forth the ring of truth.

Future trading appears to have a steady, stabilizing effect on the prices of the commodities so marketed. The high points will perhaps not be so high, but neither will the low points be so low as they might be without the feature of future trading.

It would be difficult to prove that future trading has any general effect on the price of a commodity, except that as it encourages activity in trading—in buying and selling—it is quite likely to encourage higher price levels.

Rodents or Human Beings?

AS THE system of experimentation generally used in food and nutrition research resulted in bringing foods ideally adapted to rabbits and rats to the forefront for humankind, at the expense of other foods, fruits, for instance, which might be superior foods for mankind?

In his article in this issue, Dr. D. H. Kress raises an interesting point. Research workers in diet and nutrition make very general use of rats and rabbits in their investigations.

The reasons for the use of rodents in research are weighty. They are cheap, easily procurable and of no economic importance. Food experiments that may result in loss of vigor, permanent impairment of health or even death of the subjects must of necessity be performed on some form of life lower than man, or of

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animals of economic importance to man. And it is argued that the degree of presence of the various vitamins may be as easily determined from reactions on rats as on human beings. Which may or may not be true.

It must be recognized that some types of vegetation are natural foods for certain types of animals. Grasses we naturally assign to the grazing animals. That leafy vegetables are natural foods for rodents seems as reasonable as that fruits are natural foods for the human race in particular.

Without minimizing the value of the leafy vegetables in the human dietary we must recognize the fact that much of the favorable publicity secured for these vegetables has been founded on results secured with rodents.

It may be worth pondering that the countries in which rational experimental work in diet and nutrition has been conducted with men as subjects, the general use of fruits has been increased in the same proportion as we in this country, perhaps unwisely, have increased our con-

sumption of certain kinds of vegetables.

It is to be hoped that some extensive research work may soon be made into the merits of some of our outstanding fruits, particularly the apple. Surely the merits of this "king of fruits," if accurately determined and properly set forth to the world, should result in a decided increase in consumption of that old favorite fruit.

The Cover Picture

THE BUSHEL of fancy Jonathan apples displayed on our cover this month is a contribution from the Thomas S. Smith orchard at Roodhouse, Ill., comprising 375 acres in fruit, the largest of the seven Smith apple orchards.

The new type container is one of which Mr. Smith uses nearly 200,000 annually. It has a stave considerably thicker than that of the ordinary veneer tub, it has a solid bottom, and, according to Mr. Smith, it puts the apples or peaches on the market in superior condition.

Mr. Smith is the owner of eight orchard properties, four of which are in Michigan—125 acres at Shelby, 100 acres at Omena, 70 acres at Walkerville, and 80 acres at Fennville. The three Illinois orchards are the Roodhouse property, 40 acres at New Burnside and 50 acres at Richview. Mr. Smith also owns 900 acres of peaches near Thomaston, Ga. The average annual production in the Smith orchards is 300 cars of apples and 350 cars of peaches.

The young lady apparently holding the basket in the picture on the cover is Marion Eleanor Campbell, eldest daughter of the editor.

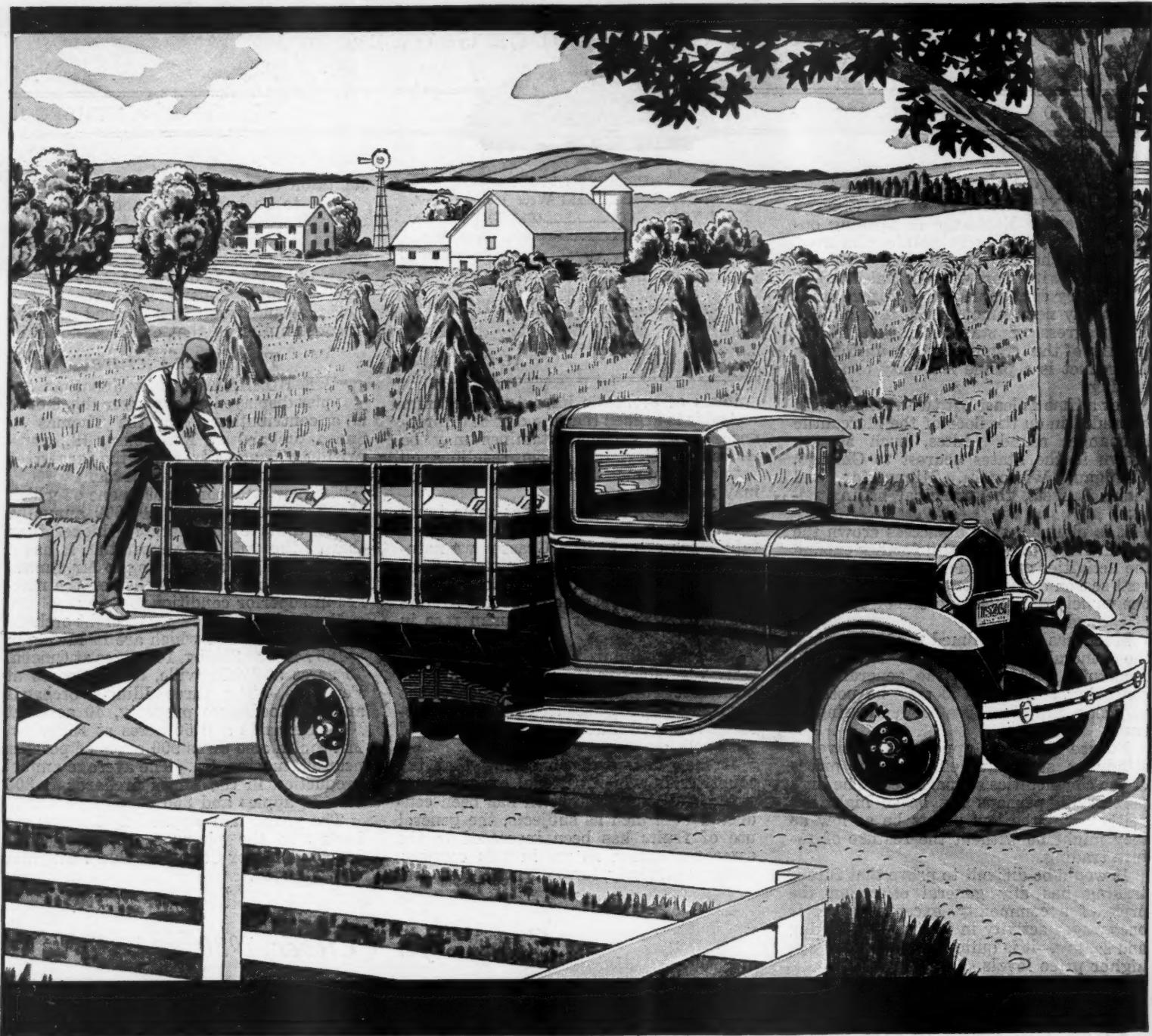
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**For each day's work
on a farm The Ford Truck gives good service**



THE Ford 1½-ton truck is strongly built of fine materials, with parts of simple and rugged design. The extensive use of special steels and fine steel forgings, and the use of more than twenty anti-friction ball and roller bearings, all contribute to the long life and reliability which it offers.

The Ford truck will give you service that is faithful, tireless, and profitable . . . and it can do all of your hauling at remarkably low cost.

A number of features increase the usefulness of the Ford truck, adding as well to its capable performance and rugged strength. Among them is a large-sized opening provided in the

transmission to accommodate a power take-off mounting. Thus the engine can furnish power for winches or other equipment mounted on the truck.

Other features are the spiral bevel gear rear axle with straddle mounted pinion; the option of two gear-ratios; the large brakes; 4-speed transmission; heavy front axle and spring. Dual rear wheels are available at small additional cost.

Bodies are strong, of good appearance, and have ample loading-space. Go to your nearest Ford dealer today, and let him show you how economically the Ford truck can serve your purposes:



D. H.
a norm
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inflamm
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FRUIT is NATURE'S NUTRITIVE "MEDICINE"

By D. H. KRESS, M. D.

Washington, (D. C.) Sanitarium and Hospital

HERE IS A scientific basis for the old trite saying, "An apple a day keeps the doctor away." Zars Agha, who is at present touring this country and lays claim to having reached his one hundred fifty-sixth year of life, attributes his excellent condition at this advanced age, in part, to his fondness for fruit. He informed the reporters that he has eaten as many as seven apples a day. "But," said the reporter, "I thought one apple a day was all that was needed to keep the doctor away." The old man curtly replied, "Yes, but there are seven doctors in the town I live in." Zars Agha would have a problem on his hands should he live in one of our American cities, in his effort to keep all of the doctors away. Americans, however, cannot be credited with a similar aversion for the medical profession, for, strange as it may seem, fresh fruits are not a staple article of food on the American table, although we are living in a country of fruits.

Americans ought to eat more fruit than they do. If they should, there would be fewer invalids and better health would be enjoyed by her people generally.

Medicinal Properties Contained in Fruits

IN starting out the human race, God provided a home in a garden, in which were all manner of trees "pleasant to the sight and good for food," and said, "Of every tree thou mayest freely eat." While other foods were provided, this was not said of any other food. There is a scientific basis for this statement, for fruits are not merely food; they in addition contain medicinal properties. The acid in the fruit, for instance, acts as a germicide and antiseptic. It interferes with the growth of germs of putrefaction and other disease producing germs in the stomach. These germs which are so destructive to human life, require an alkaline or neutral medium for development and growth and hence the fruit acids are desirable with meals containing proteids. One part of grape juice to 100 parts of water is destructive to germs of typhoid fever. A half a lemon squeezed into a glass of water containing cholera germs is sufficient to destroy those deadly germs. All fruit acids inhibit the growth of these messengers of death.

It is true the person who has an irritable and inflamed stomach and who consequently has an excess of normal acid, possibly bordering on ulceration of the stomach does not need acid fruits, in fact, acid fruits would aggravate the existing condition. In these cases acid fruits of all kinds should be avoided for a time, and only bland, non-irritating foods should be eaten. This precaution is necessary to afford the stomach an opportunity to get back to a more normal condition, when fruits may again be eaten with safety and with benefit. We protect the irritated mucous membrane of the stomach from this normal food for a time for the same reason that we protect an inflamed eye for a time from normal light which is pleasing to a normal eye. When the inflamed eye is restored to a normal state, the shield which is employed to protect it from the light is removed. So the one who has an inflamed stomach and an excessive production of normal acid, by carefulness in diet for a time, may look forward to the time when fruits can again be eaten with safety.

D. H. KRESS, M. D.

a normal state, the shield which is employed to protect it from the light is removed. So the one who has an inflamed stomach and an excessive production of normal acid, by carefulness in diet for a time, may look forward to the time when fruits can again be eaten with safety.

Fruit Is the One Food that May be "Freely Eaten" With Benefit. Fruit Acids Are Effective Germicides Which, After Absorption into the Tissues, Increase the Alkalinity of the Blood.

Fruit Acids and Their Effect on the Human System

WHERE there exists a deficiency or absence of the normal stomach acid shown by the coated tongue and the bad breath, acid fruits are especially indicated. Pepsin, which is practically always present in the stomach, becomes active as a digestant only in the presence of an acid, and there is no better acid to furnish in such a case than fruit acid.

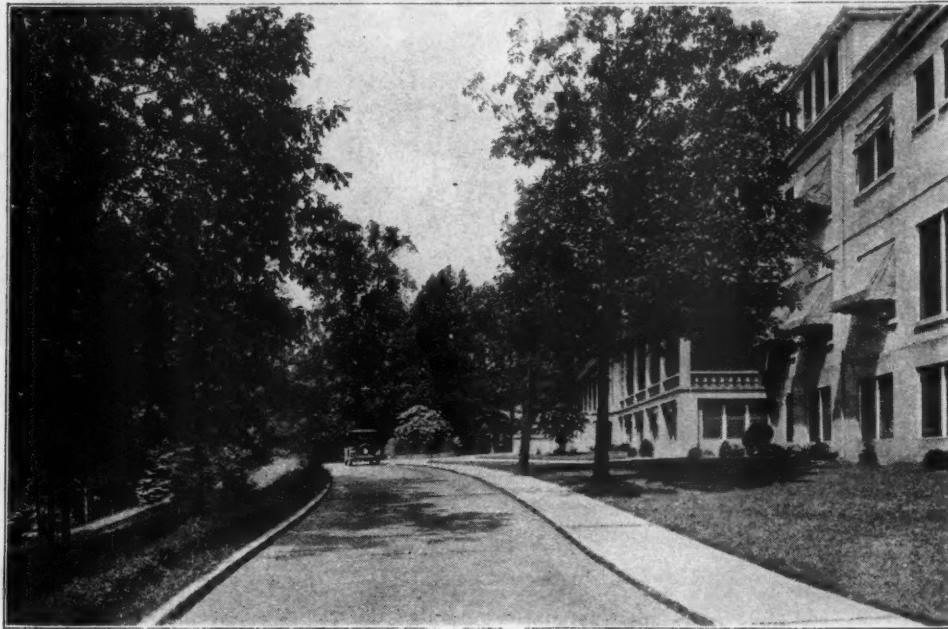
Fruit acids not only act beneficially locally, but after they are absorbed they are burned up in the tissues, thus aiding in producing the needed heat and energy, and being associated always with an alkaline base as

the stomach for 15 or 20 minutes, or until the stomach contents become acid, and then it is arrested and the digestion of the proteins begins. By reserving the acid fruits until near the close of the meal, starch digestion is not interfered with and fermentation and the formation of gas and abnormal irritating acids is prevented. After imparting this knowledge to the doctor, he thought he would make the experiment, and to his surprise found that it worked. He was able to eat and enjoy fruit ever after.

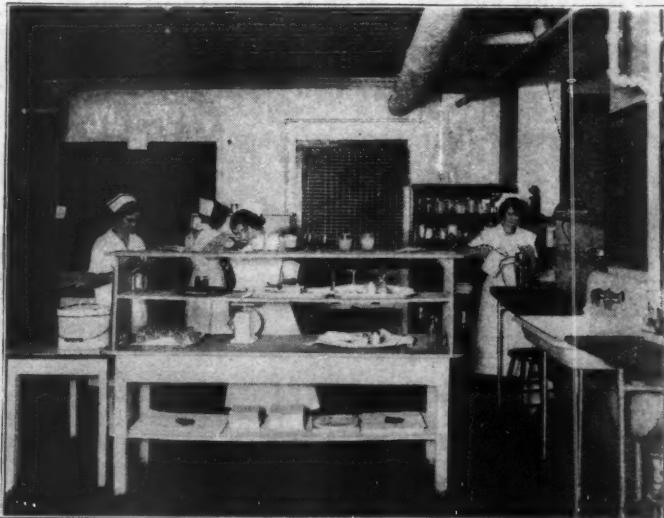
The doctor no doubt years before this had an irritable stomach and an excess of normal acid, but in time the glands became exhausted and a deficient amount of acid was secreted and acid fruits were indicated. This in fact is the history of nearly all cases where there exists a deficiency or absence of the normal hydrochloric acid.

Fruits Especially Valuable in the Summer

DURING the summer months, or warm weather, the free use of hearty foods, especially of meats, is not indicated. There is a relaxation of the body generally and the digestive juices are not so freely formed. The acid or sub-acid fruits are of special value at this time. This is why nature so bountifully provides the fruit during these seasons. The acids and the sugar in the fruit do not tax the stomach or organs of digestion. They do not require the digestive juices, but are ready for absorption. A knowledge of this undoubtedly led Paul to give the excellent advice to his associate who was suffering from some digestive disturbance, "Take a little wine for thy stomach's sake and thine often infirmities." He of course referred to the pure juices of the fruit which are nutrients, and do not tax the stomach, and not to the fermented product, which is no longer a food but a poison. Sugar is a food, while sugar after fermentation has taken place is a poison. One imparts strength. It does what the other claims to do, and hence the fermented wine is called a "mock-er." It makes the weak man feel strong for the same reason it makes the poor man feel rich.



The Washington Sanitarium, a popular health center on the bank of the Sligo River at the national capital. (Below).—A corner of the Diet Kitchen where skilled dietitians supervise the preparation of fruits, vegetables and cereals for the patients.



Why Fruits Disagree With Some People

FRUITS, however, sometimes disagree because they are swallowed in lumps, and are not sufficiently masticated. Mothers have been afraid to provide their children with fruit because they ob-

(To page 14)

His CHERRIES YIELD an INCOME of \$250 to \$1000 per Acre

FEW AUTOMOBILE tourists get to Colorado without making a trip through the 30 miles of Big Thompson Canyon into Estes Park. Big Thompson Canyon is one of the several beautiful high rock wall crevices in the eastern range of the Rocky Mountains within a comparatively short distance of Denver, and is the main highway to Estes Park and the many beautiful scenic spots on the great divide beyond.

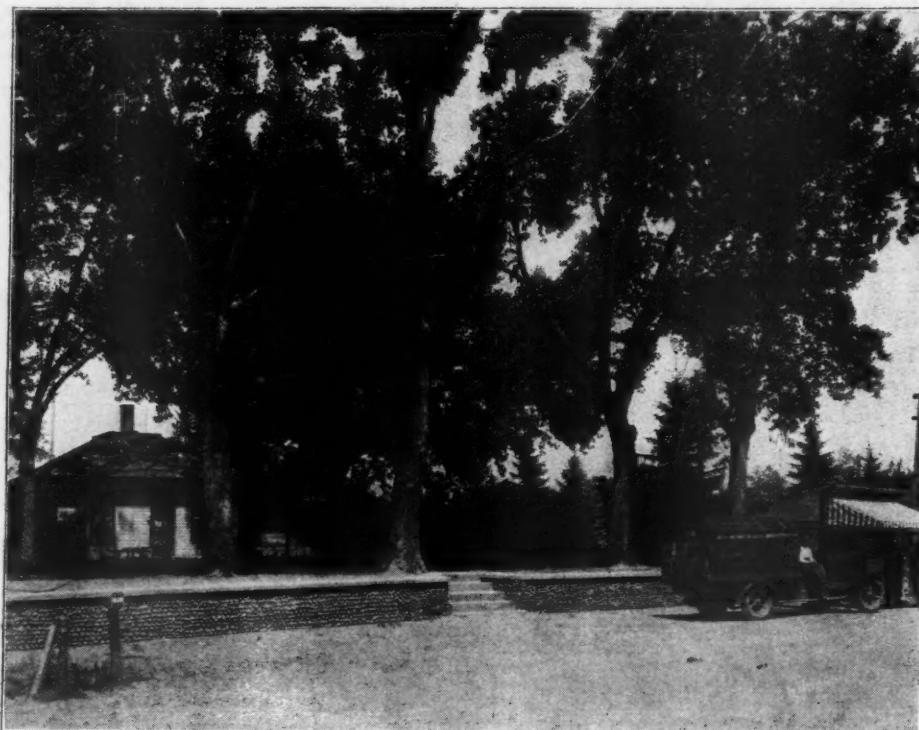
The road from Denver and from the eastern plains country of Nebraska and Kansas into Big Thompson Canyon leads through Loveland, Colo. Before reaching Loveland, the tourist drives by mile after mile of seemingly endless fields of wheat, and in the section of Colorado east of Loveland, sugar beets. Between Loveland and the foothills of the mountains, which is a distance of only six or eight miles, the agricultural character of the country changes abruptly, as that section is almost wholly devoted to cherry growing.

Ideally Adapted to Cherry Growing

THERE is something about the soil and climate which is peculiarly fitted to cherries. Being practically free from diseases, no spraying is required, and the high and dry altitude protects the trees from winter killing and from the frosts which are prevalent in low, damp sections in this latitude in spring.

One of the most successful cherry growers in this section is Harry A. Myers, whose place, "Orchard Home," is located three miles west of Loveland on the road to Big Thompson Canyon. The farm slopes upward from the road and is on the brow of the depression that leads into the valley and then up into the sand foothills before entering the canyon. Because of this location, Mr. Myers and his family have a marvelous view of the stretch of mountains, and of the tallest of them all, Long's Peak, which stands sentinel over Estes Park, a government forest and mountain preserve.

Visitors to Orchard Home in July find Mr. Myers and his son, Elbert, supervising the activities of some 200 cherry pickers who are busy gathering the crop. During the first five days of the 1930 harvest, more than 50 tons were gathered.



Above.—"Orchard Home," owned by Harry A. Myers, and located on the main highway to Big Thompson Canyon and Estes Park, three miles west of Loveland, Colo. Electric current provides lights as well as power for household uses. Below.—Mr. Myers and his son do all the orchard work with tractors, main-

taining clean cultivation through the season with 16 cultivations. That this is a profitable procedure is proved by the crops received, the orchard bearing at the rate of two and one-half to 10 tons of cherries per acre. The crop was sold in 1930 to the Loveland Cannery at \$120 per ton. The orchard comprises 80 acres.

This Colorado Grower Obtains a Substantial Income From His Cherry Orchard. A "Horseless" Fruit Farm Where all the Orchard Work is Done with Tractors, and Most of the Housework by Electricity.

By H. E. ORR

ered in boxes, each holding 25 pounds, which were loaded on a truck and hauled to the cannery factory at Loveland. The pickers were a picturesque lot. Practically all came in automobiles of uncertain ages, and the license plates on them revealed that they were from many sections of the country, even so far away as

Vermont. These "gypsy" workers had two to three weeks' work before them, as the early and later varieties were ready to harvest, and lived in a camp on a stream which runs through the Myers' place.

Constant Cultivation Keeps Down Weeds

THE 80 acres of cherry orchard were as well kept as the most immaculate of flower or vegetable gardens. As one looked down the rows between the trees, not a weed could be seen.

"We do not permit weeds or grass to take the food away from our trees," said Mr. Myers. "We begin as soon as possible in the spring with the tractor and a low orchard disk and keep up almost a constant cultivation

until we get into our busy picking season. By that time the weeds and grass are pretty well discouraged and it requires only an occasional disking to keep them down. During the year our tractor and disk travel through these 80 acres 16 times. We disk seven times through the rows in one direction and seven times through the rows at right angles. Once each season we go through the rows diagonally in each direction. This keeps the soil loose and open for all the rainfall we get. This year we had the worst drought in the 56 years since the weather bureau was established in this section. But I do not let my trees suffer. We haul water in barrels and give each tree a barrel full or 56 gallons just at the time when the cherries are beginning to show color. This is done by hoeing the surface and making a circular trench about five feet in diameter in each direction from the trunk of the tree. Then the water is put in and the loose earth put back, to prevent evaporation. The value of this water treatment is shown by our crop this year, which I estimate to run from two and one-half tons in the younger section to 10 tons in the old orchard, which contains trees 35 years old that have borne pretty regularly for a good many years."

All Field Work Done With Tractor

THERE is not a horse on the Myers' place (To page 11)



E



Goodyear HY-PRESSURE Spray Hose— *for clean trees and a paying orchard*

Clean trees are essential to the paying orchard. The experienced fruit-grower goes the whole way, and leaves no hidden spots on the tree uncared for. The under sides of leaves, the centers of blossoms, require *high-pressure spraying*.

Goodyear Hy-Pressure Spray Hose was developed to do the job. It is a flexible and easy hose to handle, not too tough to bend easily around trunk

or limb, but hard to kink and virtually impossible to burst. It takes all pressures with perfect safety. It places spray materials forcefully in the centers of trees. It cleans those hidden places, does not rot nor stiffen.

Use this powerful easily handled spray hose throughout the year. Goodyear engineers produced it especially for your work. They knew your conditions, used only the best materials,

put all their skill at building hose to the task. Made especially for you, it has the stuff to serve through seasons of hardest work. You will find Hy-Pressure Hose a sound tool for a most important job.

Specify Goodyear Hy-Pressure Spray Hose. It will help you to keep trees clean, to produce large crops of paying fruit. For information, just write to Goodyear, Akron, Ohio, or Los Angeles, California.

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GOOD YEAR

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in July and
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Write for NEW Terms for Spare Time
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Tell me how I can MAKE EXTRA MONEY
EACH WEEK THIS SUMMER AND FALL IN
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Most advantages, least disadvantages for irrigated section. 9,300 acres in Columbia Basin, Central Washington—low prices—low taxes—unfailing water supply pumped by cheap electric power—no joint liability. Unimproved lands at \$25 to \$75 per acre, easy payments.

Write—all questions reliably answered. No obligation. The Milwaukee Road recommends only tested lands, helps settlers with advice. R. W. Reynolds, Commissioner, The Milwaukee Road, 917-W Union Station, Chicago, Ill.

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MOST
CENTRALLY
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**450
ROOMS
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AND UP**

WHEN YOU GO TO
ST. LOUIS STOP AT
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800 ROOMS

FAMOUS
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RECIPES
AND DES-
CRITIVE
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CHICAGO



"I made over \$1600 in my spare time taking orders for Stark Trees, Flowering Shrubs etc. in 10 months. Then to my great surprise—I made \$426.50 in July and \$502.91 in August alone! Housewives WILL order shrubs and Luther Burbank Fruit Creations for Fall and Spring Planting—Land Owners WILL give fruit tree orders in July and August! Stark's huge Advertising Campaign creates a demand the year round—and a PREFERENCE FOR STARK NURSERY PRODUCTS that makes orders come easier to Stark Salesmen!"

Rev. C. E. King, Pike Co., MISSOURI.

QUESTIONS and COMMENT

Conducted by T. J. TALBERT

Questions on fruit growing problems and on general horticulture will be answered through this department if of general interest. For reply by mail enclose 2c stamped envelope (air mail 5c). Address AMERICAN FRUIT GROWER MAGAZINE, 53 West Jackson Blvd., Chicago.

Apple Storage Problems

THE LARGE quantities of apples put in storage each year constitute a tremendous financial risk. The main reason for this is due to the fact that those in charge are often not at all certain of the results. With the concentration of our population, mainly in large cities, it is necessary to rely and draw upon cold storage facilities through the growing season and up until the harvesting period for apples as well as other fruits. It is also true that more careful and better methods of storage have not kept pace with our improved scientific methods of growing apples. Our crop of apples may pass into the hands of those who, in many cases, have neither the knowledge nor the facilities to care for the fruit entrusted to them. As a rule, great losses occur from decay and from the lowering of the food value and palatability. The problem of apple storage, therefore, constitutes a real one which is vital to the interest of not only the producer but the consumer as well.

Common or Air-Cooled Storage

IN general, the term "common" or "air-cooled" storage is used to determine the method of storage which is utilized through the employment of natural atmospheric temperature for cooling. Common storage differs from cold storage only in the method by which the apples are cooled and maintained at storage temperature. Ventilation with common storage is relied upon from the outside air, which is intended to cool the contents of the storage building. In cold storage, the cooling is obtained by the use of ice or some means of artificial refrigeration. Since cooling is accomplished through the circulation of outside air, the term "air-cooled" is frequently applied to the common storage house or structure.

Through cold storage, the marketing of apples may be extended throughout the year. With other fruits, such as strawberries, blackberries, and peaches, cold storage is generally employed for holding the fruit until market prices are more satisfactory. The term common storage is often applied to any cellar, dugout, or house partly on top of the ground or entirely on top, the walls of which have been insulated through the packing of them with sawdust, shavings, or other kinds of insulating materials. In such storage rooms, there are ventilators at the top for the outlet of warm air, and openings near the bottom for the entrance of cool, outside air. The openings at the bottom are usually provided with some means of control, in order that the entrance of cold or warm air may be regulated according to the temperature within. On cool nights, or cool days, the openings at the bottom may be open and the ventilation at the top raised. This will allow a circulation of cool air and lower the temperature within to that which exists outside. During the warm nights or warm weather, all openings should be closed to keep out the warm air and retain the cool air and prevent the raising of the temperature within the house to that of the temperature outside.

It is very seldom that apples can be kept as long in common storage, as in mechanically cooled storage. In fact, it is the consensus of opinion that the best storage temperature is below freezing or only a little above. Where this is made possible, it is also true that the apples should generally be marketed or disposed of by March or before the warm spring weather prevails in order to secure the best results.

Cold Storage Temperature

NEARLY all investigators and men of experience in the operation of cold storage plants through mechanical refrigeration believe that a temperature of 30 to 32 degrees Fahrenheit is best for most varieties of apples. It is true, however, that a few varieties of apples, some berries, and citrus fruits, as well as some other fruits, may be injured by temperatures as low as 30 degrees Fahrenheit. Apples frozen in storage or in transporta-

tion may be less injured if not handled while frozen.

Transfer to Storage

APPLES for either cold storage or common storage should be placed in the storage as quickly as possible. This will, in general, be more especially true in localities or sections where the weather is warm at harvesting time. The loss with all varieties, it may be said, is greatest on becoming too ripe or rotten. Both ripening and rotting are, therefore, hastened through exposure to high temperatures, and when hastened to cold storage, these processes are slowed up or retarded and the keeping qualities of the fruits are prolonged.

Storage Diseases

Apple Scald.—One of the most injurious storage diseases is known as apple scald, which seems to be of a physiological nature. The malady manifests itself in the browning which occurs on the surface of the apples in storage. It generally becomes noticeable after the fruit has been removed from storage and submitted to higher temperatures. It is said to be confined mostly to the first five or six layers of cells that form the color-bearing tissues.

The best authorities believe that scald may be prevented by the movement of air around the fruit, and that it may be practically eliminated when the fruit is wrapped with a paper saturated with fats or oils. The fact that there is generally a small amount of apple scald on fruit in common storage, leads most investigators to believe that this is due partly to the greater movement of air. It is also interesting to note that scald is generally worse on fruit picked green and that it seldom develops on that part of the apple that is well colored. Some workers have found that the scald appears to be worse on the surface that is of the leaf-green color.

Internal Browning.—In many respects, this disease resembles that of apple scald. The disease may first appear as more or less elongated areas, extending outward from the primary vascular bundles. The cells near the vascular bundles may be the first to show browning. The bundles themselves may be the last to show the disease and only then in case of advanced storage. A majority of the research work in reference to this storage malady shows that apples grown under high summer temperatures show more susceptibility to browning in storage.

Fruit on trees bearing a full crop of apples of medium size may show less susceptibility than trees bearing larger fruits and carrying a comparatively light crop. The conditions of the trees during any year may increase or lessen the susceptibility of the fruit to browning. Moreover, very vigorous or very weak trees are usually more susceptible to fruit browning than the trees of medium or average vigor. It is therefore believed that orchard practices that tend to develop uniformly heavy crops of fruit of medium size, tend to produce fruit with less susceptibility to this storage disease.

Jonathan Spot.—The disease known as Jonathan spot resembles apple scald. It is often described as a superficial black or brown spot occurring upon the surface of the apple, and it is especially prevalent with the Jonathan variety. In the usual stages of the disease, the spots appear to be superficial in character, and the disease confines itself to the color-bearing cells near the surface.

It appears that Jonathan spot may be worse on apples picked a little early than on those picked when fully ripe. Some workers, however, have found this to be untrue. Of course, it is well to place the fruit in clean, cold storage as soon after picking as possible and avoid exposing it to high temperatures. It is also advisable to avoid exposing the fruit to high temperatures for long periods after the removal from storage.

Brown Heart.—This disease is apt to be due to an excess of carbon dioxide in

the atmosphere surrounding the fruit. The injury may appear to be confined to patches of dead tissue in the interior of the apples. This would be particularly true where the malady is not serious.

It has been shown that only a small amount of ventilation is necessary in order to prevent injurious accumulations of carbon dioxide in the storage bins. Moreover, forced circulation of the atmosphere will give enough movement of fresh air to prevent injury by concentrations of carbon dioxide. By proper circulation of fresh air from the outside, it is believed that the carbon dioxide may be kept too low to cause injury to the fruit, but at the same time high enough to prolong ripening and thus extend the storage period of the fruit.

Bitter Pit.—This disease may be found towards the end of the growing season or when the fruit is about half grown. More often, however, it appears after the fruit has been placed in storage. The appearance of bitter pit may be such as to affect all of the fruits of a cluster, while again only now and then the fruit may show injury. Nutrition and growth generally seem to affect this disease materially, as it is worse on young trees and on trees which have been pruned heavily. Excessive irrigation late in the season may produce more of the disease. As a rule, larger apples show more injury than smaller ones, but, of course, all apples may be injured.

Water Core.—This disease appears, as a rule, near the core of the apple and may present a water-soaked area, and appear more or less translucent. The most affected fruits may be found on the tops of the thrifty trees and on healthy branches with less foliage, which have been pruned back heavily. Shaded fruits may be affected very little as compared with those exposed to the sun. Authorities agree that perhaps no one factor is responsible for the appearance of water core. In fact, a number of factors may be known to produce the disease.

Some workers believe that water core is produced by an excessive water supply to the fruit late in the growing season. Others maintain that the disease is prevalent in sections where the water supply is abundant and the sunshine intense. Reduced transpiration may cause development of the malady. In sections where the rainfall is excessive and transpiration very low, there seems to be no definite means of avoiding water core. An ample supply of water in the spring during the growing season and a less amount towards the end at the time for the ripening of the fruit, may assist the grower in producing apples free from water core. It is also believed that by rushing the fruit to cold storage as soon as possible after picking, the enlargement of the injured areas within the fruit may be delayed and thus less injury result from the disease.

Drought Spot.—A drought spot usually appears as a large, irregular, water-soaked spot, the margin of which may have a reddish color. The dead tissue beneath the skin may have brown streaks leading from it following the vascular bundles down deep into the tissue of the apple. The injury to the fruit may appear as a sunken, corky area. The cause of the disease is likely to be due to a sudden drought. Fortunately, the injured areas do not enlarge in storage.

Controlling Scale Insects on Orange Trees

What is the best spray solution for orange trees that are full of scales? Is there any other treatment besides the spray?—J. M., California.

THERE are many different species of internal parasites that are important checks to the multiplication of scale insects injurious to citrus fruit trees. Most of these seem to be more common in the winter than in the summer. It is also true that the parasitic fungi which help to control the scale also do most of their work during the winter season.

The common method of controlling scale insects and the white fly is to spray

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the trees with an oil emulsion. Where white flies and scale insects are both to be combated, the spray may be applied in September or early October. One exception must be made to the early fall spray, however. In the case of early varieties, the fall spray should be delayed until after the fruit has been picked. This is true because spraying with oil emulsion tends to delay the ripening of the fruit. Where a grove becomes heavily infested with scale insects during the winter, it should, of course, be sprayed before the spring flush of growth makes spraying unsafe.

The spraying solutions which have been used most recently consist of emulsions of lubricating oils. The emulsion may be made at home, or the oil may be purchased from companies engaged in the manufacture of the same.

The dilution generally recommended is one and one-third or one and one-half per cent of oil. To make a one and one-half per cent solution, use six quarts of the stock solution to 50 gallons of water. As in all spraying, of course, it is very important that every portion of the tree be thoroughly covered and wet, in order to make the spraying work effective.

Mulching Young Apple Orchards

I have two young apple orchards two years old in which I have planted strips of clover, seeding with oats for a nurse crop. I have been cultivating the four feet next to the tree rows. Can you tell me whether mulching these trees with the oats would be advisable, bearing in mind that I could not get a cover crop next to the trees? I do not intend to make the start of a permanent mulch but would like to get that organic matter next to the trees to work under.—E. T. W., Michigan.

THE MULCH which you describe should be satisfactory to apply to the soil near the young trees, providing you plow the same under during the late fall or early winter. This is suggested because if the mulch is allowed to remain it may act as a dangerous hazard for fire and rodents. This would be particularly true were the mulch allowed to cover the ground near the trunks of the trees.

A mulch such as you describe is frequently, however, placed in orchards and gives good results in conserving moisture, but the soil is usually pulled up around the base of the tree trunks and the mulch raked away for a few feet to prevent injury by rodents and at the same time to reduce the likelihood of injury to the trees should fire break out.

When to Prune Grapevines

What time of the year is best to trim and prune grapevines? Also, when would be the best time to set out new vines or shoots?—R. T., Vermont.

IN GENERAL the most satisfactory period, all factors considered, for the pruning of grapevines is in early spring after all danger from excessive low temperatures has passed. This is true because the work if delayed until this period will enable the pruner to remove any wood that may have been killed by winter temperatures, and the canes which are selected and left for fruiting should be the healthiest and most suitable ones. If the pruning work is done at this period little or no bleeding will result and even if it did, perhaps it would not be harmful.

Shoots and cuttings are generally set out in the early spring as soon as weather and soil conditions will permit.

Gummy Trunk Exudations

I have a good sized orchard containing some very valuable trees. The gum is oozing out of the trunk of nearly every one of the trees. What seems to be the trouble and what can I do to correct it? They are sprayed three times every spring but they gradually die.—E. C., Indiana.

THE DESCRIPTION which you give it is believed refers to stone fruit trees, such, for example, as peaches, cherries, and plums. Moreover, in all probability the cause for the exudations or oozing of gum at the base of the trees is due to an attack of borers.

One of the best remedies that anyone can suggest for borers is the production of vigorous, healthy trees. This, of course, is brought about through good cultivation, fertilization, proper pruning, and spraying.

Even where this is done the borer problem may still be a serious one, and it may be necessary to worm the trees in the fall and spring; that is, dig out the borers by means of a sharp knife and stiff wire, which may be used as a probe.

For peach trees particularly there has been developed in recent years a chemical

known as paradichlorobenzene, or PDB, which is used at the rate of about three-fourths of an ounce to an ounce, depending on the age of the tree, in a ring or small trench in the soil about the base of the trees. The season of the year for best results is during the latter part of September or early October. For full information relative to the use of PDB on stone fruits, applicable to your conditions, we suggest that you write to your Agricultural Experiment Station, Department of Horticulture, Purdue University, Lafayette, Ind.

Yellowing of Foliage

The leaves on my three-year-old apple and cherry trees are turning yellow. What is the cause of this? The foliage on my apricot, plum and pear trees is also turning yellow. What can I do for them? The apple trees have burnt leaves on them and do not grow. All the trees are planted in a sandy soil.—G. P., Nebraska.

FROM THE description which you give, no one can be positive as to the cause of the leaves of your apple and cherry trees turning yellow.

Yellow leaves may be caused by a variety of troubles, such, for example, as disease and insect attack, drought conditions, or poorly drained soil, particularly during rainy seasons.

The leaves of cherry trees are perhaps most often turned yellow due to an attack of leaf spot, a fungous disease which may be controlled efficiently by proper spraying. The leaves of all fruit trees may also show a yellowed tinge or color due to a lack of proper nutrition, which is most often due to a shortage of nitrogen.

The burnt condition of your apple trees is no doubt due to an attack of fire blight, a bacterial disease of apples and pears.

The fire blight has perhaps already run its course and will not do further injury this season. If there is a shortage of moisture at this time, causing the leaves to change their color, this might be corrected by proper irrigation where this is possible. Fungous diseases like the leaf spot of cherries and plums perhaps has caused too much injury and is too well established in the foliage to be affected profitably by spraying at this time. The sprays to have been worth while and of value should have been applied from just before blooming time, following the blooming period, and continued at intervals of about 10 days up until within three or four weeks before harvest. One or more applications may also be needed following the harvesting period.

We suggest that you write, therefore, to your Agricultural Experiment Station, Department of Horticulture, Lincoln, Nebr., for full information relative to spraying fruit trees. This will give you the information desired, which should apply particularly well to your conditions.

Transplanting Cherry Trees

Can you give me any information as to when to transplant young cherry trees and how to do it? Also, what can we do to save our sweet cherry trees?—G. E., New York.

IN MOST sections of the country cherry trees may be successfully transplanted either in the late fall or early spring. It has been found, however, for Missouri conditions that late fall or early winter generally gives the best results. In more northern and cooler climates where additional amounts of moisture are obtained, perhaps equally as good results are secured from spring planting.

As with the planting of any other kind of deciduous fruit trees, the soil should be well prepared by plowing, harrowing, and disk. The holes for the tree roots should be made wide enough and deep enough to accommodate the root system. In planting the trees, it is generally well to endeavor to have the trees stand in the soil at the conclusion of transplanting at a depth of about one to two inches deeper than they stood in the nursery row. The first few shovelfuls of soil placed on the roots should be thoroughly packed by tamping, while the last shovelful may be left to lay loose to prevent baking. The secret of success in planting a fruit tree is generally the firming and thoroughly compacting of the soil among and over the roots.

In the culture of both sweet and sour cherries, it is highly important that cherry growers in the various States keep in close touch with their respective agricultural experiment stations in order to obtain from them the latest and best information relative to recent experimental work dealing with cultivation, fertilization, pruning, spraying, and other important problems. The grower, therefore, that is able to adapt this information to his conditions will usually make the greatest returns.



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FRUIT and VEGETABLE REVIEW

By PAUL FROELICH
U. S. Bureau of Agricultural Economics

BY SEPTEMBER, production prospects had improved slightly for peaches, pears and commercial apples, while the total crop of grapes was slightly reduced. The potato crop was cut down very sharply by continued drought and heat, and sweet potatoes were reduced by a few million bushels. The corn crop was seriously affected. Farm prices, as a whole, were quite low.

Shipments of apples, grapes and peaches were increasing during the fore part of September. Pears were still heavy, but some other fruits were decreasing. The 1930 season for Florida grapefruit was opening with good prospects. Movement of California oranges and lemons was rather moderate. In general, market prospects for fruit were fairly good.

Many Apples in the West

THE production of apples is now forecast at about 146,000,000 bushels, approximately the same as the forecast on August 1, about 3% larger than the short crop of 1929, and about four-fifths as large as the average during the previous five years. With production generally light except in the Northwest and with quality above average, the proportion marketed for consumption as fresh fruit will be somewhat larger than usual, and the commercial crop is estimated at 30,784,000 barrels, equal to 92,352,000 bushels. Since August, prospects declined 4% in New York and quite sharply in the Cumberland-Shenandoah region, where the drought was most severe, but these reductions have been offset by increases in Washington and New England. Washington now expects more than 9,600,000 barrels, or 28,800,000 bushels of commercial apples, and New York ranks second, with 4,595,000 barrels. The Washington crop may be 17% larger than average of the five years, 1924-28.

By early September, shipments from western States had increased to a daily average of 100 cars, while movement of eastern apples was at the rate of 125 cars per day. Western fruit was more plentiful than last season at this time, but shipments from eastern areas were only about half as heavy as in September, 1929. Jobbing prices of eastern apples in city markets showed little change from the previous month and ranged from 50¢ to \$2.25 per bushel basket. Best eastern fruit was returning mostly \$1.25 per bushel at shipping points. Extra Fancy, medium-to-large Delicious sold at \$2-\$2.15 per box, with Winesaps at \$1.65 and Jonathans around \$1.25, f. o. b. loading stations in the Pacific Northwest.

Late Peaches Active

THE peach crop is now forecast at about 48,461,000 bushels, approximately 6% larger than the 1929 crop but about 15% less than the average for the previous five years. In the 10 southern early States, where the crop has been harvested, shipments confirm the forecast of a month ago and production is now estimated at 10,088,000 bushels. In these States the severe winter temperatures and late frosts combined to reduce the crop about 14% below the small 1929 crop and about 44% below the average production during the previous five years. From Virginia and Kentucky north, the crop, although light, was turning out somewhat better than anticipated a month ago. The dry season, while causing some early maturity and smaller sizes, has likewise tended to hold disease damage in check. In California the crop is now forecast at 28,877,000 bushels, which would be the largest crop on record.

The six States around the coast from North Carolina to Mississippi had a combined total of 9,012,000 bushels, compared with 5,874,000 last year, but the other southern early States had very few peaches this season. Those which had an excess over last year together shipped 11,500 cars, as against 7,290 in 1929. Georgia alone shipped 8,550 cars of peaches during the 1930 season.

Late peaches were moving actively to market by September, but the available supply for use fresh was not very great. California was still shipping 3300 cars per week and all other States together 1000 cars. Much of the California fruit, however, was for manufacture. Important sources during September were New Jersey, New York, Pennsylvania, Michigan and Washington. Those five States together have an estimated crop of 5,800,000 bushels, compared with 7,293,000 last

year. New York is the only one in that group having a large crop. Shippers in western New York were getting only \$1.50 per bushel basket of best Elbertas, while the f. o. b. price in Michigan was around \$2. City markets were dull and rather weak. Boxes from California were bringing only 50¢-\$1 in large consuming centers. California had already shipped 20,000 cars of peaches, or twice as many as from the light crop of 1929.

Pears in Abundance

HERE was but little change in the prospective production of pears from month ago. Condition was reported at 67% on September 1 and the production forecast at about 24,600,000 bushels, which would be about 14% larger than the crop of 1929 and the average of the previous five years. In New York and the three Pacific Coast States, ordinarily producing about two-thirds of the country's pears, the crop is particularly heavy this year. In Oregon the crop is forecast at about 70% above the five year average. Over the rest of the country the crop will be light. New York and Oregon have slightly over 3,000,000 bushels each; Washington nearly 4,000,000; and California, almost 9,500,000 bushels of pears.

Weekly movement was still averaging 2000 cars during the first half of September. In addition to California, chief sources were Oregon, Washington and New York. Shipments from Michigan were relatively light. The season generally has been earlier than last year. Total pear shipments to September 10 were 50% heavier than to the same time in 1929. Prices were moderate, ranging only \$1-\$1.35 per bushel package of best Bartletts at shipping points. Oregon shippers were getting \$3.50 per ton of No. 1 Bartletts for canneries. Boxes of Extra Fancy Anjous ranged as high as \$2.25, f. o. b. Oregon points.

Grapes Moving Freely

THE grape crop is still expected to be 12% larger than in 1929 and about equal to the average production during the previous five years. In California, the prospects have not materially changed since August, but in the East the drought has tended to reduce the size of berries. This loss has, however, been largely offset by reduced losses from disease. The abundance of sunshine also hastened maturity and improved the quality of the fruit. Total production of grapes was forecast in September at 2,334,762 tons, of which New York and Michigan each expected about 72,500; Pennsylvania 16,000, and Ohio 23,000 tons. New York has fewer but Michigan more grapes than in 1929. Production of wine-grape varieties in California was indicated in September as 463,000 tons; table varieties 422,000 tons, and raisin grapes 1,193,000 tons.

October usually is the most important month for grapes, with rail shipments often averaging 1000 cars daily. By early September, California was moving 350 cars each day, while the Ozarks shipped 20 daily, and Iowa, Kansas, Michigan and New York were contributing a considerable volume. The market so far has been rather draggy. Shippers in southwestern Michigan were getting around 18¢ per 4-quart basket of Moore's Early grapes. Lug boxes and 4-basket crates of Thompson Seedless and Malagas were returning only 60¢-65¢ cash-track in central California, with juice stock ranging \$27-\$40 per ton, depending mainly on the variety.

Condition of Citrus Fruits

THE estimated condition of California oranges and grapefruit remained unchanged since August and was still around 85% of normal. California lemons, however, advanced three points to 82% of normal. A slight improvement also was registered for Florida citrus, with the September condition of oranges at 84%, grapefruit at 80%, and tangerines at 79% of normal. Prospects are still good for an abundance of market supplies the coming season. Forwardings of new-crop grapefruit from Florida points were becoming quite active by mid-September, and imports from Cuba and Porto Rico were numerous. California orange shipments were averaging only about 90 cars daily, and lemons around 35 cars each day.

Cantaloupes About Finished

BY September 6, Colorado had shipped 2,160 cars of cantaloupes, or just about the same as a year ago, and pos-

sibly 1000 car loads were yet to be moved. Once the Colorado crop is cleaned up, the season for this product is about done. The market was dull and weak. Flat crates were returning only 40¢-45¢ at shipping points in the Arkansas River valley, with Honey Dews in standard and jumbo crates ranging 50¢-55¢. Terminal markets also were sluggish. There will still be a considerable movement of Honey Dews and other late melons after September.

Prune Markets

THE season for California fresh prunes and plums was closing with a record of 5000 cars shipped, as compared with 1800 cars last year when production was light. California had a crop of 74,000 tons of plums this season, or one-third above the average figure. Prunes for use fresh were quite plentiful in the Pacific Northwest. Oregon and Washington together had shipped 1700 carloads by September 10, and the season in those States was waning. Idaho had become very active and at that time was the leading source of supply. Last year, Idaho shipped nearly 2000 cars of fresh prunes and plums, while Washington and Oregon each shipped somewhat over 1000 cars. Suitcase boxes of fresh Italian prunes recently were returning only about 30¢ at Washington shipping points. Prunes for drying in California may total 234,000 tons this season, or fully twice as many as in 1929 and one-third more than average. Oregon expects only 27,500 tons. Those interested can obtain from the Bureau of Agricultural Economics, Washington, D. C., a copy of a very recent report on "Marketing American Dried Fruit in Europe."

Vegetable Markets Weak

IN mid-September, about the only vegetables showing considerable strength were potatoes and lettuce. The great reduction in the potato crop report helped to boost the prices. Good-quality lettuce was in demand at higher prices. Sweet potatoes were recovering somewhat from period of depression. Shipments of most vegetables (except potatoes) were still moderate but were gradually increasing to the autumn peak.

Short Crop of Potatoes

POTATO production now seems likely to total less than 340,000,000 bushels, which would be nearly 6% smaller than the light production of 360,000,000 bushels last year, 14% below the five-year average crop from 1924 to 1928, and only about 6% larger than the very short crop of 321,000,000 bushels in 1925. The prospective 1930 crop represents a per capita supply of 2.75 bushels, which is slightly less than the lowest amounts previously recorded, 2.78 in 1925 and 2.33 in 1916. The per capita production last year was about 2.91 and in 1928 about 3.80 bushels.

The spread of drought into the more northerly States and the telling effect of the extreme temperatures during July and August are accountable for the 9% decline in production prospects since August 1. The average yield now expected, for the country as a whole, is 97.4 bushels, compared with 106.7 last year and 109, the average yield for the period 1919 to 1928. The 1930 yield, based on conditions reported on September 1, is the lowest since 1921.

Decline in crop prospects was particularly sharp in the more important late-shipping States in the eastern part of the country, particularly in Michigan, Minnesota, Wisconsin and Pennsylvania. Some of the loss was foreseen early in August but, with the continued lack of beneficial rains, earlier indications of the reduction to be expected were surpassed. While the effect of heat and insufficient moisture were responsible for the loss in most of the States, in Maine the decline in crop prospects was due to excessive rains resulting in extensive blight and serious rot damage. From later reports, it was anticipated that further losses will be sustained in this important northeastern source of supply. Adequate rains, on the other hand, could cause material improvement in the prospects in the States where the crop has suffered a setback from heat and drought. Prospects continued good in New Jersey and in most of the important western shipping States, particularly Idaho and Colorado.

Potato Prices Advance

POTATO markets were advancing sharply during early September. Although carlot movement was rather liberal, digging of the main crop had not progressed very far and shipments were not expected to reach their annual peak until October. Forwardings were nearly 1000 cars on some days, chiefly from Long Island, Maine, the North Central area,

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Dried

and from Colorado and Idaho. New Jersey was about finished, with a record of 6500 cars by rail, in addition to heavy movement by truck. Last year, New Jersey shipped only 3830 cars of potatoes. Closing report of f. o. b. prices in New Jersey this season was \$2-\$2.15 per 100 pounds of best sacked Cobblers.

Minnesota shipping points had touched top of \$2.20 by September 10, and Wisconsin shippers got as much as \$2.30. Cobblers in Aroostook county, Maine, were returning \$1.60-\$1.70 per 100 pounds, with the f. o. b. market firm. Bliss Triumphs were bringing \$1.55-\$1.65 in western Nebraska. The Chicago carlot market was stronger on North Central potatoes at \$2.25-\$2.50, and on Idaho Russet Burbanks at \$3-\$3.25. Maine Cobblers had advanced to a level of \$2 per 100 pounds in the Boston market, and ranged \$1.90-\$2.40 elsewhere. Best Long Island Cobblers brought \$2.15-\$2.35 in New York City, while arrivals from New Jersey ranged \$1.85-\$2.75 in several markets.

Sweet Potatoes Decline

THE condition of sweet potatoes showed further decline on September 1, being reported at 58% of normal, a drop of 7 points during the month. The crop is now forecast at little more than 63,000,000 bushels, one-fourth smaller than last year's crop and nearly one-sixth less than the average production during the period 1924 to 1928. The indicated yield this year, 74 bushels, is the third lowest on record for the past 60 years, the lowest being 71 bushels in 1896.

The decline in crop prospects during August was especially marked in the five important Atlantic shipping States, from New Jersey to North Carolina, with a 13% reduction during the month. These five States now anticipate a crop one-fourth smaller than in 1929 and 14% below the five-year average crop during the years 1924 to 1928. The decline in South Carolina amounted to 9%. Kentucky and Tennessee together showed a decline of

10% in prospective production during August. Production in these two States, as a result of severe drought, is not expected to be more than 80% of an average crop. Improvement is reported in the production prospects for Alabama, Louisiana and Texas, which normally have an appreciable carlot movement of sweet potatoes. A 7% increase in crop prospects since August 1 is reported. The crop in these States is expected to be not quite one-fifth smaller than in 1929 and about one-tenth below an average production.

Markets for sweet potatoes were very dull and prices declined sharply during late August, with some recovery in September. Best yellow varieties from Virginia were jobbing in terminal markets at \$3.25-\$5.25 per barrel. Bushel packages ranged generally \$1-\$1.75, with southern Nancy Halls as high as \$2 and best New Jersey stock as high as \$3.

Cabbage and Onions

MOVEMENT of cabbage was gradually increasing, with New York, Wisconsin and Colorado most active. F. o. b. markets were weak during the first part of September. Bulk Domestic round-type was returning only \$11-\$12 per ton at western New York points, with sacked stock at \$14-\$15. Best Copenhagen cabbage brought \$9-\$9.50 per ton in southeastern Wisconsin. Much wormy stock was being harvested, and there was no demand for this inferior cabbage. Movement of Danish type was scheduled to begin by September 20. Shippers in northern Colorado received only 50c-60c per 100 pounds.

Onion-shipping points in New York State quoted 100-pound sacks of yellows, 2 inches and larger, at \$1-\$1.15, while 50-pound sacks returned 60c. Michigan shippers got practically the same prices as those in New York, for 1½-inch minimum onions. Japanese sets brought \$1.15 per 100-pound bag in the Massachusetts producing area. Terminal markets were draggy and prices low. The 50-pound sacks are increasing in favor. Total onion shipments were averaging 125 cars daily.

His Cherries Yield an Income of \$250 to \$1000 per Acre

(From page six)

farm. Every bit of field work is done with a tractor. Both Mr. Myers and his 18-year old son, Elbert, operate the tractor, and it was a pleasure to watch the boy manipulate it. As one observer expressed it, "That boy can make that tractor do everything but sit up and speak."

The way the youth handled the tractor so as to dodge the low hanging branches loaded with fruit and at the same time disk the soil underneath with the low disk, was a lesson in tractor operation. The ability of the tractor to make short quick turns at the will of the operator was one of the advantages of the tractor over horses, which was pointed out by Mr. Myers. "My tractor is worth a thousand dollars a year to me in the saving of man labor that would be required to do the same amount of work with horses," said Mr. Myers. "Then I have the advantage of being able to cover a lot of ground in a short time so that one man and the tractor can get through the orchard and be able to start over again before vegetation has a chance to rob the soil of the plant food the trees need in order to produce at their best."

Another advantage which Mr. Myers did not express but which is apparent is the fact that he spends his winters away from Colorado. For the last several years, Mr. and Mrs. Myers and their son have been in San Antonio, Texas, throughout the extreme cold weather. Because he uses a tractor, there are no horses to be cared for throughout the winter season and the cozy house at Orchard Home is closed, and the family has nothing to think or worry about in the livestock line at home, with the exception of Mrs. Myers' pet Jersey cow, which is boarded out through the winter.

Some idea of the energy of Mr. Myers, whose abundance of silvery locks tells that he has reached the half century mark, may be gained from the fact that he has purchased a farm in the lower Rio Grande Valley and is now developing it into a grapefruit ranch.

"Harry does not work hard enough up here all summer," said Mrs. Myers. "So he has launched this grapefruit project

way down in Texas. But he is interested and enthusiastic over orchard work and probably will get more enjoyment out of being busy caring for the trees in winter than he has been in merely enjoying the warm Texas climate."

Many Household Labor-Saving Devices Employed

MRS. MYERS is not at all selfish in employing labor-saving equipment on her farm. Within the attractive home, Mrs. Myers has every convenience with which to work. There is electricity for light and for power for the electric iron, vacuum sweeper, and other home electrical equipment; there is water under pressure throughout the house, and, perhaps best of all, there is gas for cooking and for the water heater which supplies hot water at the kitchen sink and in the bath, all conveniences which Mrs. Myers takes pains to point out to her visitors.

In watching Mr. Myers act as a guide through the thousands of cherry trees, the varieties of which are English Morello, Montmorency, and Ragliah, one cannot help but assimilate a great deal of enthusiasm. His success with his orchards seems to again prove the saying that "in order to be successful, a man must love his work."

Subsoiled Orchard Resists Drought

DRY WEATHER has not retarded wood growth or injured the young apple orchard of N. A. Pratt, Ellijay, Ga., who plans to harvest an average of one-third bushel a tree from a thousand trees the third growing season after planting one-year whips. This orchard, which consists of rough hilly land, was subsoiled in 1927 and 1928, using tractor power, at a cost of about 90 cents an acre. Mr. Pratt found that the soil was able to absorb heavy rains as a result of subsoiling and there was no washing even though the land was not terraced. Four bushels of rye were planted last fall on a small piece of ground which had been subsoiled and from this was threshed 210 bushels by weight.

WIN One of TEN PRIZES \$600.00 Each

Write a Nickname for Your Favorite Movie Star

We want clever nicknames for the ten movie stars whose names appear below and we are going to give ten equal prizes of \$600.00 each to the people who answer our ads.

Select the movie star you like best from the ten names listed below (it must be one of the ten pictured here) and then think up a nickname that will be easy to remember—which "just fits" that movie star. It's the latest fun game. I will show you how. For example, here are some nicknames of other stars. Mary Pickford is called "America's Sweetheart"; John Gilbert "The Screen's Most Romantic Hero"; Lon Chaney is often called "The Man of a Thousand Faces." You see how easy it is, but I want YOU to send me a good nickname for your favorite star among the ten pictured in this ad.

Send the name of the movie star you have selected as your favorite (only one name accepted from a person). Send your suggestion for his or her nickname, no matter what it is, on a post card or letter, and you will be qualified for this wonderful opportunity to win one of ten prizes of \$600.00 each (or a brand new latest model Chevrolet 2-door Sedan).

FREE Photoprint of Your Favorite Star

From our limited supply, we will send you, absolutely free, all charges prepaid, a genuine photoprint in beautiful lusterfinish gloss of your favorite movie star. This costs you nothing. It is sent free if you are prompt. There is no charge even for postage or packing.

For the sake of fairness, we will not accept nicknames from residents of the city of Chicago, Ill. There is no obligation. Send no money. Not necessary to buy now, later or ever.

Hurry Your Answer. Win \$600.00.

J. F. LARSON, Publicity Director, Room 101, 54 W. Illinois St., Chicago, Ill.



Janet
Gaynor



Richard
Barthelmess



Joan
Crawford



Ramon
Novarro



Laura
La Plante



Greta
Garbo



Conrad
Nagel



Effect of Manganese Sulfate on Potatoes on Dade County Glade soil. Section on left received no Manganese Sulfate and section on right 50 pounds per acre.

Try a small 50 or 100 lb. bag of CARUS

MANGANESE SULFATE on your various plantings. Introductory price 5c per pound f.o.b. LaSalle, Illinois

For Earlier and Better Crops—use

CARUS MANGANESE SULFATE

Plants treated with it will mature earlier bearing fruit of superior quality and flavor. Also assists in correcting Chlorosis (Yellows) of tomato, spinach, cucumber, and all other plants. 60 pounds treats an acre!

Can be applied mixed with your regular fertilizer or as a side dressing to the young plants. When mixed with nitrogen, phosphorus and potash commercial fertilizer, it replaces manure.

Reprints of articles on the application of Manganese Sulfate to plants and its merits sent on request.

Write for copies today!

CARUS CHEMICAL CO., Inc.,
Box 364GI La Salle, Ill.

Grape Pollination Studied

TESTS MADE in the vineyards of the New York State Experiment Station at Geneva with several varieties of grapes valuable for their high quality and hardness but unproductive due to poor setting of fruit have revealed that hand pollination will give compact clusters comparable to the best commercial varieties. The varieties under study were known to be unable to set fruit to their own pollen, but even when grown in close proximity to sorts that produce good pollen, the natural agencies of pollination, wind and insects, seemed unable to produce the results that can be obtained by hand pollination.

"Of the many pollen-sterile varieties of the grape, none are known to have become commercially important in this country," says Olav Einset, entomologist at the experiment station in charge of

these studies, who adds that "the group includes many varieties valuable for their quality and hardness, but as a rule the clusters are loose, which results in low yields and an unattractive appearance."

Concord and Rosaki both set fruit well when fertilized with their own pollen, in the station tests, but Bakator, Brighton, Eclipse, Lindley, and Pontiac gave little or no fruit when protected against invasion from outside pollen. Even where the blossoms were left uncovered and were exposed to pollen from nearby vines, very unsatisfactory sets of fruit resulted.

The data, which are reported in a recent publication from the Station, are believed to show that wind and insects, the natural pollen carriers for most fruits, are not efficient in the case of the grape, and that if satisfactory yields are to be obtained of these grapes which cannot set fruit to their own pollen, the grower must resort to hand pollination.

THE CURB MARKET

RATES: Per word, for Classified Advertisements in "agate" type, first line capital letters, 15 cents per word, including name and address. No advertisement accepted as less than 24 words. (Minimum cost \$3.60.) **DISPLAY ADVERTISEMENTS**, of type matter only (no illustrations, trade-marks, etc.) set wholly in our type, \$19.60 per inch, cash with order. No Display Advertisement of less than 1-2 inch will be accepted. Maximum size one-fourth page (12 1-2 inches). Orders may be sent direct, or through any recognized advertising agency.

AGENTS-SALESMEN WANTED

WE START YOU WITHOUT A DOLLAR. SOAPS, extracts, perfumes, toilet goods. Experience unnecessary. Carnation Co., 278, St. Louis, Mo.

AGENTS WANTED—EARN \$10 TO \$15 A DAY IN your spare time selling ranges, stoves and furnaces direct from factory. Write for full details. Box A, American Fruit Grower Magazine.

BIG MONEY DAILY SELLING SHIRTS, TIES, Undershirts, Socks, Raincoats, Lumberjacks, Sweaters, Leather Coats, Mackinaws, Coveralls, Pantaloons, Children's play suits. Outfit FREE! Experience unnecessary. Nimrod Co., Dept. 102, 4922-28 Lincoln Ave., Chicago.

IF YOU WANT TO GET YOUR GROCERIES AND household supplies at wholesale, and a wonderful chance to make \$15 cash profit a day besides, send me your name immediately. No experience necessary. Albert Mills, 5271 Monmouth, Cincinnati, O.

MAKE GOOD MONEY—MEN AND WOMEN—Sales of our product in spare time will double your income. Factory fifty years in business behind you. No experience necessary. Box M, American Fruit Grower Magazine.

DOGS

COON, POSSUM, SKUNK, RABBIT, AND FOX hounds, trial, cheap. Herrick Hound Kennel, Herrick, Ill.

COONHOUNDS, FOXHOUNDS, RABBITHOUNDS. Blueticks, Redbones, Blakstack, Cash Fox Catcher, Dog Supplies. Sporting Goods. Big Catalogue. Kaskakis Incorporated, E-38, Herrick, Illinois.

FOR SALE—20 CHOICE THOROUGHLY TRAINED coonhounds, at midsummer prices. Shipped on trial. Kevil Kentucky Kennel, B-6, Kevil, Ky.

F FARMS AND ORCHARDS

ORCHARD, 3000 APPLE TREES, 100 ACRES. Some timber. Good buildings with modern conveniences. Close to town of Bedford, Pa. Adjoining lands of Bedford Springs Hotel. Send for illustrated folder. Box 553, Winder, Pa.

LOUISIANA FRUIT LANDS MATURE CROPS early and are sure. No winter killed crops or early frosts. Peaches bear 3rd year. Very rich virgin land in healthy white community. Schools, churches, hard roads. Large or small tracts on liberal terms with 10% cash. Details with photos. W. P. Markle, 45% Bird Ridge, Memphis, Tenn.

F FARMS WANTED

WANTED—TO HEAR FROM OWNER OF LAND for sale for fall delivery. O. Hawley, Baldwin, Wis.

SELL YOUR PROPERTY FOR CASH, NO MATTER where located. Information free. Established 28 years. Black's Realty Co., Dept. B-28, Chippewa Falls, Wis.

F FUR

SPECIAL SALE—BEST FUR BREEDING ANIMALS from World's Largest Breeder. In 1929 we pelled 100,000 muskrats, 30,000 Chinchilla rabbits, 300 silver foxes, 500 mink and raccoon. Prices on request. Mt. Forest, 229 Bagley, Detroit, Mich.

Coming Meetings of Fruit Growers

AMERICAN Pomological Society annual meeting will be held in connection with the Mid-West Horticultural Exposition at Shenandoah, Iowa, November 12 to 14.—William R. Cole, Secretary, Amherst, Mass.

DELAWARE Peninsula Horticultural Society meetings will be held at Bridgeville, Del., December 10 to 12.—J. F. Adams, Secretary, Newark, Del.

FLORIDA State Horticultural Society special northwest Florida meeting will be held at Marianna, October 14 and 15. The annual meeting will be held at Miami in the spring of 1931.—Bayard F. Floyd, Secretary, Davenport, Fla.

GEORGIA State Horticultural Society annual meeting will be held at Savannah, November 11 to 13.—George H. Fifer, Secretary, Athens.

ILLINOIS State Horticultural Society seventy-fifth annual meeting will be held at Urbana, December 10 to 12.—H. W. Day, Secretary, Centralia.

INDIANA Horticultural Society meeting will be held at Purdue University, Lafayette, January 14 to 16, 1931.—K. L. Fawcett, Secretary, Lafayette.

IOWA The Eighth Mid-West Horticultural Exposition will be held at Shenandoah, November 11 to 16. The following conventions will be held in connection with the exposition:

Eighty-third annual convention of the American Pomological Society.

Sixty-fifth annual convention of the Iowa State Horticultural Society.

Nineteenth annual convention of the Iowa Beekeepers' Association.

Nineteenth annual convention of the Iowa Fruit Growers' Association.

Seventeenth annual convention of the Iowa Vegetable Growers' Association.

Tenth annual convention of the Iowa Nurses' Association.

Seventh annual convention of the Iowa Peony and Iris Society.

Twenty-eighth annual convention of the Society of Iowa Florists.

Federated Garden Clubs of Iowa will hold a conference.

—R. S. Herries, Secretary, Iowa State Horticultural Society, State House, Des Moines.

KANSAS State Horticultural Society annual meeting will be held at Topeka, December 9 and 10, adjourning to meet in Kansas City with the Missouri Valley Horticultural Conference on December 11 and 12.—W. R. Martin, Secretary, Capitol Building, Topeka.

INSTRUCTION

MEN 18-35. RAILWAY POSTAL CLERKS, \$158.00-\$225.00 month. Steady work traveling. Common education sufficient. 25 coached free. Write immediately. Franklin Institute, Dept. R-69, Rochester, N. Y.

WANTED IMMEDIATELY. MEN, WOMEN, 18-35, qualify for steady government positions; \$105-\$250 month; common education; non-government experience required; vacations with pay; many needed soon. Write Instruction Bureau, 250, St. Louis, Mo., quickly.

MISCELLANEOUS

ADAMS NO-MO FOR RUNNING FITS, SARCOPTIC Mange and Fleas in dogs. Large size \$1.00. Money back if it fails. Adams C8 Supply Co., Ramsey, Illinois.

RAISINS. GOOD FRESH ONES, 12c LB., DELIVERED by express prepaid, guaranteed minimum order 25 lbs., 4c lb., f. o. b. Live Oak, Calif., J. J. Krebs.

NURSERY STOCK

PEACH AND APPLE TREES 5c AND UP. YELLOW and Blood Red Delicious. Grapevines 3c. Plums, pears, cherries, nuts, berries, pecans, ornamentals. FREE catalog. Tennessee Nursery Company, Box 101, Cleveland, Tenn.

WE SELL ON THE CREDIT PLAN. BEST VARIETIES. Apple, Peach Tree low as 5c. Grapevines, 3c. Shrub, 10c. Evergreens, 25c. Seeds, Bulbs, etc. Benton County Nursery, Box 501, Rogers, Arkansas.

PLANTS

LATHAM RASPBERRY PLANTS. MOSAIC FREE. A. B. Coleman & Son, Aitkin, Minn.

CUT PRICES ON CHOICE IRIS PLANTS. 7 Cents Each: Albion, Anas, Attraction, Aurea, Azure, Mrs. Christian, Caprice, Celeste, Cherubim, Candelabra, Cleopatra, Claret, Cretonne, Cameo, Delicate, Dawn, Dimity, Dr. Cretonne, Fairy, Grace, Gertrude, Grecian, Hellebore, One Queen, Halfday, Gertrude, Her Majesty, Honorable, Blakely, Ingobrig, Ignatia, Jacqueline, Monogram, Wett, Juniper, Kochi, Kynaya, Lent, A. Williamson, Lohengrin, Loreley, Mary Garden, May Queen, Miss Eardley, Mithras, Mme. Chevreau, Monsignor, Mrs. H. Darwin, Savignian, Sherwin-Wright, Pseudacorus (yellow water Iris), Vericolor (blue water Iris). The city for \$3.00. All plants labeled and postpaid. Your opportunity. Tell your neighbors. Circular FREE. A. B. Katkamier, Macedon, N. Y.

POULTRY

CHICK PRICES CUT 6 1/2 CENTS IF ORDERED NOW for spring shipment. Best Egg Strain White Leghorns. Records to 320 eggs. Guaranteed to live and outlast ordinary chicks. Thousands of pullets, hens, cockerels at bargain prices. Big catalog and special price list free. George B. Ferris, 922 Union, Grand Rapids, Mich.

SONG POEM WRITERS

SONG POEM WRITERS—"REAL" PROPOSITION. Hiltbeler, D-96, 2104 Keystone, Chicago.

SONGWRITERS—OPPORTUNITY. TOMMIE MALIE, AFG-215 North Ave., Chicago.

burg, January 20 to 22, 1931.—R. H. Suds, Secretary, State College.

VIRGINIA State Horticultural Society thirty-fifth annual meeting will be held at Monticello Hotel, Charlottesville, December 2 to 4.—W. S. Campfield, Secretary, Staunton.

WEST VIRGINIA Horticultural Society thirty-eighth annual meeting will be held at Martinsburg in February. Dates have not been set.—Carroll R. Miller, Secretary, Martinsburg.

WISCONSIN State Horticultural Society annual meeting will be held at the State Capitol, Madison, November 19 to 21, in connection with which the State Nurserymen's Association and the State Garden Club Federation will also hold their annual conventions.—H. P. Rahmlow, Secretary, Madison.

Cherry Pits Contain Valuable Oil

JN THEIR quest for waste farm products which may be utilized commercially, chemists of the United States Department of Agriculture have recently completed a study of the properties of cherry-kernel oil. Their findings justify the belief that this oil would find ready use if it were produced in large enough quantities.

In many respects cherry-kernel oil is similar to that from almond, apricot, and peach kernels, according to C. S. Jamieison and S. I. Gertler. The results of their investigations indicate that it should prove useful as a high-grade salad oil, and suitable for use in the manufacture of various cosmetics, and for some pharmaceutical preparations. Limited quantities have been used for such purposes and have given good results.

It is estimated that more than 100,000,000 pounds of sour cherries are canned every year in Michigan, New York, and Wisconsin. The pits, which amount to 12 to 15 per cent of the fruit, contain about 28 per cent kernel and 72 per cent shell. The oil content of the kernels ranges from about 32 to 40 per cent. If all the pits separated at the canning plants were utilized for oil, the annual production would amount to more than 4,000,000 pounds.

Studies by the department in 1915 demonstrated the possibility of extracting oil from cherry pits, but no attempt was made to do this on a commercial scale until 1926. Last year the commercial production amounted to about 68,000 pounds.

Drought Farmers Aided Through Intermediate Credit Banks

THE RECOMMENDATIONS of banker members of the State Drought Relief Committees urging the greater use of Agricultural Credit Corporations and the setting up of more such corporations in the drought areas will in no way tax the resources of the Federal Intermediate Credit Banks to take care of the farmers' notes offered to them by the corporations. These banks have been organized since 1923 and have discounted or purchased farmers' notes aggregating half a billion dollars. Their potential lending capacity is \$660,000,000. More than 700 local institutions, including not only agricultural credit corporations, but live-stock loan companies and banks, have made loans to farmers for agricultural purposes and then sold the notes to the Intermediate Credit Banks. Thus, neither the corporations, livestock loan companies or the Intermediate Credit Banks are emergency institutions. They are intended to occupy an intermediate position between short-term commercial credit and long-term farm mortgage credit. The paper may be slow, timed to the slow turn-over of agricultural production, but it must be good. However, the corporations and Intermediate Credit Banks are admirably suited to aid in the present situation.

MISSOURI Valley Horticultural Conference will be held at Kansas City, Mo., in the Shrine Temple, December 11 and 12. It will be participated in by fruit growers from Missouri, Kansas, Arkansas, Nebraska, Iowa, Colorado and other States. Commercial exhibits of spray machinery, spray material, etc., will make up an important part of the conference.—R. J. Barnett, Chairman, Program Committee, Manhattan, Kans.

The Missouri Annual Horticultural Show will be held at the Missouri College of Agriculture, Columbia, October 28 to 31.—W. H. Thompson, Secretary, Columbia.

MONTANA State Horticultural Society annual meeting will be held at Stevensville during January.—W. E. Pollinger, Secretary, Corvallis.

OHIO State Horticultural Society annual meeting will be held at Columbus, February 2 to 4, 1931.—F. H. Beach, Secretary, Columbus.

PENNSYLVANIA State Horticultural Society meetings will be held at Bridgeville, Del., December 10 to 12.—J. F. Adams, Secretary, Newark, Del.

AMERICAN FRUIT GROWER MAGAZINE OCTOBER, 1930 PAGE 12

Prune From the Ground

with increased speed and lightened labor. Eliminate climbing and injury to trees. Work easily and rapidly by using a

Rot-O-Bow Pole Saw

Strong, durable, the 10-ft. saw weighs less than 3 pounds. Can be readily operated with heavy mittens cold weather. Slender pole affords comfortable grip. Flexible frame, with swiveling blade, controlled to cut any desired angle.

Endorsed by Commercial Growers of Large Areas

A leading authority on pruning says: "It is in some respects superior to other types of pole pruners. We have used it in our apple and peach orchards."

10 ft. saw \$3.75, over 10 ft. 15c per ft. extra

Buena Vista Mfg. Co., Stern Lake, Iowa

Agents Wanted Everywhere

Index to Advertisements

The concerns whose advertisements appear listed below are equipped to give prompt and satisfactory service to the American fruit grower. Most of them issue literature that is freely at the disposal of our subscribers. It is to the advantage of all that when writing to an advertiser you use the address exactly as it appears in the advertisement, and that you state in your letter: "I read Your Advertisement in AMERICAN FRUIT GROWER MAGAZINE."

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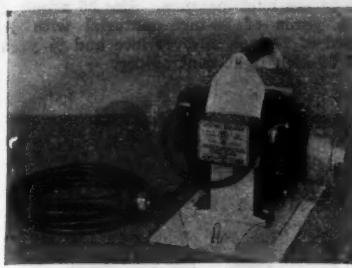
TRACTORS

Cleveland Tractor Co.....13

IRON

Portable Motor for Farms

A NEW fractional horsepower portable motor has recently been placed on the market by one of the larger electrical equipment companies. The portable unit consists of a kit of parts and a standard motor of popular make, selected to meet the voltage requirements, and



This portable motor can be attached to a machine in a second and detached as quickly. It is used to furnish power to grind chisels or sausages, clean grain, shear sheep, grade apples, churn butter, freeze ice cream and numberless other tasks.

other characteristics of rural electric service.

With this portable unit it is very con-

venient for one motor to do the work of several jobs. The kit includes a motor base, as many fixed bases as are required, handle supports, pulleys, "sentinel" breaker for starting and motor protection, and 15 feet of flexible cord.

The entire unit is designed for strength, simplicity and usefulness. The motor operates on 110 or 220 volts alternating current or 32, 115, or 230 volts direct current and may be obtained in sizes of either one-sixth or one-fourth horsepower. The cord has a tough waterproof rubber covering. The plug is made of soft rubber which is pliable and indestructible. The start and stop switch is a sentinel breaker which is compact and trouble-proof and also serves as a protective cutout for the motor.

Fixed bases for this unit are fastened in place permanently on each machine to be driven. It is only a matter of a few seconds to make the change from one machine to another with this base connection. The motor base slides into the fixed base and is fastened rigidly in place by one thumbnut. Provisions are also made for belt tension adjustments.

Additional bases for attachment to other machines may be obtained from the dealer either singly or in packages of four.

New Fruit Guide Issued

THE NURSERYMEN of the State of New York are finding much useful information in the list of "Fruits Recommended for New York," issued by the experiment station at Geneva. With the budding season at hand, this list of the best varieties of hardy fruits for various parts of New York serves as a guide in budding operations in order that stocks of the better varieties of fruit may be available when the demand comes. A copy of the list may be had upon request to the station.

Fruit growers, both professional and amateur, will also find the list of considerable value in making selections for new plantings. The list indicates whether the sort is best suited for commercial use or for the home orchard or the roadside stand. Many recent introductions believed to be especially worthy of trial are also listed, and it is suggested that for greater variety the fruit grower will probably want also to supplement the

station list, which gives only what is considered as the very best of each of the several tree and small fruits, with offerings from various nursery catalogs.

Under each of the groups, such as apples, pears, etc., the varieties are listed in order of ripening, and information is given by means of symbols of the section of the State in which each variety can be grown to best advantage. Very brief descriptions of the recommended sorts are included.

The importance of proper pollination for the successful production of most fruits means that age of bearing, time and length of blooming season, annual or biennial bearing habit, and suitability of the variety as a pollinator must enter into the final choice of varieties to be set in the orchard. For this reason, the list also shows whether the varieties are good, fair, or poor pollinizers and whether they are early, medium, or late bloomers.

Washington Apple Prices & Marketing Costs

WASHINGTON apple prices and costs of shipping point marketing services are contained in Bulletin 242 on that subject just issued by the Washington Agricultural Experiment Station at Pullman, Wash. The study covers prices received and costs of western marketing service for about 40 per cent of the Washington crop during a period of six years beginning with 1922. Central packing costs, which include all items of material and labor, as well as overhead, from the time the loose fruit is received

at the central packing plant until it is ready to be put into the warehouse, averaged 41.6 cents per box during the period. They increased about 10 per cent in the last two years of the period, due apparently to the additional expense caused by cleaning the fruit. The investigators believe that packing costs will probably not continue to rise, but may be expected to become somewhat lower over a period of time. The report also gives warehousing costs, costs of shipping-point storage, and selling charges.

Florida Testing New Type Citrus Container

A CITRUS fruit container of veneer slats fastened with strap iron bands is being used this season at Tampa, Fla. The fastener is a patented triangular segment which is pressed through the slat and clinched. The container is said to be 50 per cent stronger

than the present standard box; other features are "reduced cost of manufacture and material; less time required in packing; more complete air circulation around fruit, and reduced decay of fruit in transit."

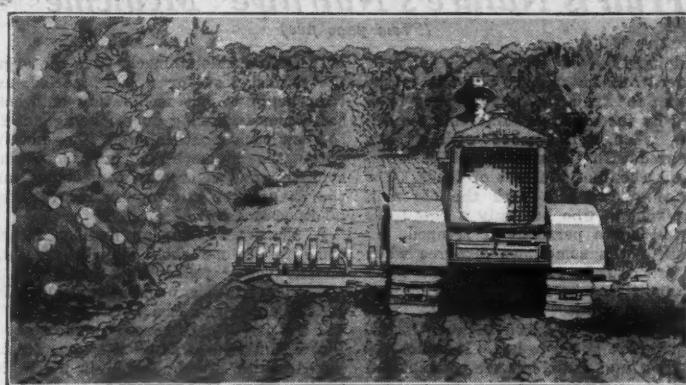
Drought Need Not Affect Orchard Yields

DESPITE two successive years of drought in the growing season, experimental orchards at the Pennsylvania State College have maintained normal yields because of special efforts to conserve moisture.

With bumper crops in the college orchards this summer, agricultural experiment station officials of the college feel that they have found the right practice to pull orchards through even more dam-

aging dry spells than those experienced in 1929 and 1930.

The secret of the successful dry spell yield lies in a system of cover crops turned under to provide plenty of humus, or organic matter, for the orchard soil, and carefully planned use of fertilizer in the orchard, Dr. F. N. Fagan, professor of pomology in charge of orchard experiments, declares. Heavy growths of cover crops, such as alfalfa and clover, when turned under provide organic matter for the orchard soil and this retains moisture through the dry spells.



Select Your Tractor as You Would a Partner in Your Business!

IT IS a partner in your business—the tractor you select to help you with your work. You expect it to shoulder a large part of the job—to help you in building fine vigorous trees, a better grove and more profitable yields. It doesn't pay to choose your tractor hastily—look the field over carefully before you make this important selection.

Cletracs offer unusual advantages for your work over other types of tractors. At the draw-bar Cletracs exceed all other types in delivered pounds pull per horsepower. They handle heavy implement loads up extraordi-

nary grades. On the turns, a patented planetary gear steering system maintains power on both tracks, one side being retarded and the other speeded up to make the turn. Economy is another feature. Remarkable efficiency in carburetion and lubrication keep oil and gas costs low.

If you are interested in a tractor that has proved its ability in fruit growing for thousands of grove owners and orchardists, then you will be interested in Cletrac. Let your Cletrac dealer demonstrate the several Cletrac sizes.

THE CLEVELAND TRACTOR CO.
13301 Euclid Ave. Cleveland, Ohio

Baltimore Has New Fruit and Vegetable Terminal

THE NEW fruit and vegetable terminal of the Baltimore and Ohio Railroad at Baltimore, erected at a cost of approximately \$1,200,000, was opened on September 30. The terminal covers two city blocks and is located in the heart of the commission merchants' district.

The main building of the terminal, which is of brick steel construction, is 565 feet long and 90 feet wide, with an eight-foot platform along one side. There are four tracks with a capacity of 48 cars, so arranged as to make it possible to unload all of the cars simultaneously.

A driveway, 74 feet wide, on the east side of the building, provides spacious room for city deliveries. Other tracks are provided with additional unloading ca-

pacity of 129 cars, making a total of 177 cars capacity for fruits and vegetables. At the southern end of the building, the platform has been extended 243 feet for temporary use of express business, with tracks of 30 cars capacity. These facilities can be taken over for the perishable products trade should the present new facilities be outgrown.

The front part of the building is two stories high for 146 feet of its length. This is equipped with offices and an auction room with capacity of 200 people. There is ample room on the second floor for another large auction room should it become necessary. The temperature of the building is regulated by a thermostatic control.

Spray Residue Removal Costs

WHAT does it cost per bushel to remove the spray residue from apples by washing after the washing machinery has been installed? The following is a summary of cost of operations by a grower in New Jersey as reported by J. S. Knox of the University of Arkansas Extension Service: Bushels washed (approximately), 500,000; depreciation on machine, \$250; interest on money, \$49.80; acid, \$37; labor, one man one-third full time, \$120; power, \$120; water, \$50; grease, oil, \$5; repairs to chain, \$2.25; new track, \$60; total, \$694.05. From these figures it will be seen that the cost per bushel for washing was slightly under one and one-half cents. In another trial it was about one and three-fourths cents per bushel. This would indicate that the cost should not be in excess of two to two and one-third cents per bushel at its highest.

As electrically operated fruit washers cost from \$600 to \$1,500, which is quite an item for a small grower, Professor Knox suggests that several small growers buy a machine co-operatively and in this way make the cost more reasonable. The machines will wash from 1000 to 3000 boxes of fruit per day of 10 hours,

depending upon the size of the machine and the speed of operation.

English Sparrow Control

WHERE English sparrows become too numerous in a locality, it is often necessary to control them. Economical and effective methods of controlling these birds where they become overabundant are described in a leaflet, 61-L, "English Sparrow Control," just issued by the United States Department of Agriculture. Copies of the new leaflet may be obtained free on request to the Office of Information, United States Department of Agriculture, Washington, D. C.

Upon the completion of a roadside market survey by the Bureau of Statistics and Inspection of the State of New Jersey, it is estimated that the annual sales at roadside markets within the State amounts to \$1,500,000.

Large acreages of cabbage, strawberries, and other truck crops will be planted in Pinellas county, Florida, this fall according to Wm. Gomme, county agent.

Fruit is Nature's Nutritive "Medicine"

(From page five)

served it disagreed with them. It never occurred to them that it was due to the fact that the fruit was not properly masticated by the children. Bananas, for instance, when well mashed with a fork, will agree with the most sensitive stomach and is one of the best of foods. The apple that disagrees with the old man or the woman who has only a few teeth left, will agree perfectly if scraped.

Again fruits sometimes disagree when eaten with other foods, as coarse vegetables, at the same meal, or with mashed potatoes or potato soup, or they may cause trouble when taken between meals, or just before going to bed. It is not the fruit that is at fault, but the combination or the time of eating it.

The Stomach a Much Abused Organ

IT IS not strange that so many have irritable and diseased stomachs. The stomach is a much abused organ. The wonder is that it so patiently bears for years the abuse which is so often heaped upon it.

Take an inventory, if you will, of a table laden with its luxuries, delicacies and irritants, and you will agree with me that there is no other creature that could be persuaded to eat what modern man eats. The savage would refuse what we in civilized lands regard as necessities. Savages will utterly refuse pepper, mustard, chowchow, pickles, and even cane sugar. The pastries, puddings, and other delicacies, they will have nothing to do with.

The stomach becomes inflamed by crowding into it such substances. When it is in this condition, one of two things is necessary in order to keep comfortable; either restore it to a normal condition by treating it as we would any other inflamed member, putting it at rest for a time, or use some narcotic medicine that will deaden the nerve terminals of the inflamed organ and hush its protests. By the latter means, we are left in a state of blissful unconsciousness and ignorance of the actual condition the organ is in. Thousands are choosing this course. The boastful remark is made, "I can eat anything." Men who are able to do this, and who do it, may put on weight and appear robust. They may even be physically strong, but they are as a rule vitally weak. They die suddenly at an age when they should be entering upon the period of greatest usefulness. Friends are surprised. These are the men with high blood pressure, or who later in life develop cancer of the stomach and other serious and fatal disorders.

Treating an Irritable Stomach

A WORD of advice is sufficient on this point. Do not resort to narcotic stomach remedies when suffering

with an irritable stomach. Give the organ the needed rest for a brief period, and then begin to eat moderately of wholesome, non-irritating foods, being careful to chew each mouthful well. Let nothing enter the stomach in lumps. Reduce everything to a creamy consistency, and the chances of a complete recovery are all in your favor.

A short time ago an anxious mother came to see me about her boy, a lank, anemic young fellow about 17 years of age. The boy was poorly nourished. Did he eat enough? Yes, he ate enough. I had the privilege of observing the boy eat. I saw him take a slice of soggy, freshly baked white bread, double it up in his mouth by a twist of the tongue, and swallow it. This performance was repeated twice, and was followed by several swallows of coffee. The entire meal disappeared in a remarkably short time, in the same mysterious manner. Is it a thing to be marveled at if children are poorly nourished and are nervous and irritable, or if their stomachs are disturbed when this is the customary way of eating with not a few?

Allow me to make one suggestion: Do not drink too freely with your meals. Moisten the food, and especially the starches with saliva instead of water. In subsisting largely upon meats, and using mustard, pepper, and a large amount of salt and sugar, it is all right to take one or two glasses of water during the meal. Meats require no saliva and chewing is not such a great essential. When one subsists largely on starchy foods and fruits, the lost art of mastication has to be revived, and all the liquid needed or desired is some juicy fruits at the close of the meal. There can be no objection to half a glass of water; but the free drinking of water with a meal made up largely of starchy food is a mistake.

Do not keep on saying, "I cannot eat fruits, and I cannot eat starchy foods," the good foods that God "created to be received with thanksgiving," and then continue to eat that which is not good because it seems to agree with you. Do not call good evil and evil good. Find out why you are out of harmony with nature's bill of fare, and make it your life study and purpose to come into line.

Those Important but Indefinable Vitamines

ANOTHER element which makes fruit one of the most desirable of all foods, is the vitamines they contain. A few years ago practically nothing was known of these elements, so important to health. Vitamines—what are they, and what is the real source of their supply? Vitamines are not food elements such as protein, starches, sugars, and fats, which can be separated from the various foods and analyzed. They, in fact, cannot be analyzed. We cannot separate them from the foods and place them side by side and say, "This is Vitamine A; this is Vitamine B; this is Vitamin C, and so on." They cannot be seen with the naked eye or even by the aid of a microscope. But while vitamines cannot be seen or analyzed, we know they exist. This is determined by experimentation with animal life. Animals may be fed with foods containing all the elements of nutrition, yet if there be lacking in the foods these mysterious somethings to which have been applied the names of vitamines A, B, C, D, and E, they will develop deficiency diseases.

Vitamines are not foods at all, they are living principles found in living foods. Deprived of vitamines, foods are dead. This emphasizes the need of living more than we do on raw foods. Vitamines may be destroyed by prolonged cooking or baking. Soda placed in foods containing vitamines will also destroy them. All this has been determined by observation of food effects on animals. When cows are fed on green grass and other raw foods, their milk is well charged with vitamines, and their calves thrive upon it. When deprived of these foods and fed merely on old hay or straw, containing all of the food elements found in grass but lacking in vitamines, the milk ceases to properly nourish their young. This vital something may be destroyed by boiling, so that children fed on boiled cow's milk may sicken even though the

milk is rich in all of the food elements. Orange juice must be supplied in such cases. One teaspoonful of orange juice contains as much vitamine as is present in a pint of milk.

More Advantage Should Be Taken of Nature's Offerings

THE discovery of vitamines should not make more complicated the food problem. It should simplify it. It should teach us the need of getting back to nature, and back to nature's foods. It should emphasize the need of spending more of our time in the open air and sunshine, and eating more of our foods in a natural state. Animals allowed to roam at large in the open, exposed to the sun, and living on nature's food, served in the most natural manner, keep in the best health. It is the domesticated animals that are deprived of green foods and sunshine that develop tuberculosis and other deficiency diseases. Sunshine, pure air, and nature's foods are the remedy for such. The same applies to human beings.

In countries where the people live chiefly on the unsophisticated foods of nature, and spend much of their time in the open air and sunshine, cancer and other deficiency diseases are seldom found. Doctor McCarrison, who represented Great Britain as a surgeon in a remote part of India where the people live in this manner, tells us that during the nine years he was there he performed over 4000 surgical operations, but that he never saw one case of cancer.

There are foods that furnish vitamines that are especially suitable as food for creatures for whom they were especially designed. For instance, leafy vegetables are the most natural foods for rabbits. Rabbits thrive upon them. They are the foods nature designed for them, and are especially adapted for their needs. It does not follow, because rabbits thrive upon such foods, that they are in every respect the most desirable for human beings. All the experiments so far conducted by American food experts have been conducted with rabbits or with rats. Dr. Hindhede, health commissioner and food expert of Denmark, carried forward his experiments for years in his own country with men. On his recent visit to America, he said during one of his lectures: "You in America carry forward your experiments with rats, while I experiment with men. If you want to find the foods best for rats, you must experiment with rats, but if you want to find the foods best for men, you must experiment with men." That rabbits thrive well upon raw cabbage, spinach, and other leafy foods rich in vitamines, is no reason why these foods should be recommended for mankind to the exclusion of others possibly better adapted to man's needs. These are not the only foods that contain vitamines. Vitamines are present in all living or raw foods, and no foods are better adapted for man's needs than fruits.

Budding Cherries

LONG-TIME tests carried on in the orchards of the State Experiment Station at Geneva have proved to the satisfaction of the station fruit men that Mazzard rootstocks are far superior to the Mahaleb rootstocks so commonly used in this State in the budding of cherries. More vigorous and healthier trees and a longer lived and more productive orchard will be obtained with trees budded on Mazzard stocks, it is said, especially in the case of sweet cherries, although sour cherries also do better on Mazzard roots than on Mahaleb.

An old lady in church was seen to bow whenever the name of Satan was mentioned.

One day the minister met her, and asked her why she did so.

"Well," she replied, "politeness costs you nothing, and—you never know!"

"I notice that it is possible to raise flowers by electricity."

"Yes, a good many are grown from bulbs, you know."

October Patterns

JABOT Collar (No. 2706). This graceful model will have especial appeal to figures a little above normal. It will be found extremely easy to make. Designed for sizes 36, 38, 40, 42, 44, 46 and 48 inches bust measure. Size 36 requires 3 1/2 yards of 39-inch material with 1/2 yard of 14-inch all-over lace and 1/2 yard of 39-inch light contrasting.



DISTINCTIVE and Practical (No. 2703). A swagger frock of wool crepe shows interesting buttoned front closing that adds a tailored air. Designed for sizes 8, 10, 12 and 14 years. Size 8 requires 2 1/4 yards of 35-inch material with 1/2 yard of 39-inch contrasting and 2 1/4 yards of binding.

CHIC Wrap-Around (No. 107) A navy blue wool crepe dress is a splendid choice for your autumn wardrobe. De-



signed for sizes 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 3 1/2 yards of 39-inch material with 1/2 yard of 27-inch contrasting.

SCARF Neckline (No. 358). A black silk crepe is an excellent choice for all around daytime occasions, particularly with flattering eggshell silk crepe collar, as in model illustrated. Designed for sizes 16, 18, 20 years, 36, 38, 40 and 42 inches bust measure. Size 36 requires 3 1/2 yards of 39-inch material with 1/2 yard of 35-inch contrasting.

Patterns may be secured by mail, postage prepaid, at 15 cents each from AMERICAN FRUIT GROWER MAGAZINE PATTERN SERVICE, 261 Fifth Avenue, New York City. Be sure to state size required. Enclose 10 cents additional for copy of Fall and Winter Fashion Magazine (15 cents where no pattern is ordered).

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